

Sub B1

a4

5. (Amended) The intervertebral spacer as recited in Claim 1, wherein the second component comprises a biocompatible material selected from the group consisting of bone, ceramics, polymers, composites, stainless steel and titanium.

6. (Amended) The intervertebral spacer as recited in Claim 5, wherein the first component is formed from bone and is partially demineralized to leave a mineralized core of the first component to provide sufficient support to provide subsidence.

Sub B1

a5

12. (Amended) A two-part intervertebral spacer comprising:
a generally C-shaped ring defining a bore and having a predetermined thickness between an upper and a lower vertebral engaging surface, the ring being of substantially closed structure comprising bone; and,

a threaded dowel having a diameter greater than the predetermined thickness of, and engagable within, the C-shaped ring.

13. (Amended) The intervertebral spacer as recited in Claim 12, wherein the threaded dowel comprises a biocompatible material selected from the group consisting of bone, ceramics, polymers, composites, stainless steel and titanium.

Sub B1

a6

18. (Amended) A method of restoring spacing between adjacent vertebrae comprising:

providing a two-part intervertebral spacer having a ring defining a bore and upper

a6
and lower vertebral engaging surfaces defining a thickness between the upper and lower surfaces, the ring being of substantially closed structure comprising bone, and a locking implant engagable within the bore of the ring and having a height greater than the thickness of the ring;

positioning the ring within an excised disk space between adjacent vertebrae; and engaging the locking implant within the ring and with the adjacent vertebrae.

Please add new Claims 22-37 as follows:

Sub B1
22. (New) The intervertebral spacer as recited in Claim 1, wherein the bone is selected from the group consisting essentially of mineralized bone, partially demineralized bone, surface demineralized bone, wholly demineralized bone, cancellous bone, cortical bone and composites.

a7
23. (New) The intervertebral spacer as recited in Claim 12, wherein the bone is selected from the group consisting essentially of mineralized bone, partially demineralized bone, surface demineralized bone, wholly demineralized bone, cancellous bone, cortical bone and composites.

24. (New) A two-part intervertebral spacer comprising:

a first component having upper and lower vertebral engaging surfaces and a thickness between the upper and lower surfaces, the first component being a C-shaped ring wherein at least a portion of an inner surface of the ring defined by the C-shape is

threaded; and,

a second component engagable within the first component and having a height greater than the thickness of the first component.

25. (New) The intervertebral spacer as recited in Claim 24, wherein the second component is a cylindrical locking element having threads on an outer surface thereof, which threads are engagable with the threads on the inner surface of the C-shaped ring.

26. (New) The intervertebral spacer as recited in Claim 25, wherein the locking element includes a throughbore for receipt of bone growth inducing factors.

27. (New) The intervertebral spacer as recited in Claim 24, wherein at least one of the first component and second component is of substantially closed structure and is formed from bone.

28. (New) The intervertebral spacer as recited in Claim 27, wherein the first component is formed from bone and is partially demineralized to leave a mineralized core of the first component.

29. (New) The intervertebral spacer as recited in Claim 27, wherein at least one of the upper and lower vertebral engaging surfaces is wholly or partially surface demineralized.

30. (New) A two-part intervertebral spacer comprising:

a first component having upper and lower vertebral engaging surfaces and a thickness between the upper and lower surfaces, the first component comprising an intact ring having a bore in an outer surface thereof; and

a second component engagable within the first component and having a height greater than the thickness of the first component comprising a dowel configured to engage an inner surface of the bore,

wherein the outer surface of the dowel and the inner surface of the bore are formed with corresponding mating threads.

31. (New) A method of restoring spacing between adjacent vertebrae comprising:

providing a two-part intervertebral spacer having a ring defining a bore and upper and lower vertebral engaging surfaces defining a thickness between the upper and lower surfaces and a locking implant engagable within the bore of the ring and having a height greater than the thickness of the ring;

positioning the ring within an excised disk space between adjacent vertebrae; and engaging the locking implant within the ring and with the adjacent vertebrae,

wherein the step of engaging includes threadedly engaging threads formed on an inner surface of the bore with threads formed on an outer surface of the locking implant.

32. (New) A method of restoring spacing between adjacent vertebrae comprising:

providing a two-part intervertebral spacer having a ring defining a bore and upper and lower vertebral engaging surfaces defining a thickness between the upper and lower surfaces and a locking implant engagable within the bore of the ring and having a height greater than the thickness of the ring;

positioning the ring within an excised disk space between adjacent vertebrae; and engaging the locking implant within the ring and with the adjacent vertebrae, wherein, prior to the step of engaging, threads are simultaneously formed on an inner surface of the bore and at least one endplate of adjacent vertebrae.

33. (New) A method of restoring spacing between adjacent vertebrae comprising:

providing a two-part intervertebral spacer having a ring defining a bore and upper and lower vertebral engaging surfaces defining a thickness between the upper and lower surfaces and a locking implant engagable within the bore of the ring and having a height greater than the thickness of the ring;

positioning the ring within an excised disk space between adjacent vertebrae; and engaging the locking implant within the ring and with the adjacent vertebrae, wherein the bore defined in the ring is formed after the step of positioning the ring.

34. (New) A two-part intervertebral spacer comprising:

a generally C-shaped ring defining a bore and having a predetermined thickness between an upper and a lower vertebral engaging surface, the ring being of substantially closed structure comprising bone; and,

a threaded dowel having a diameter greater than the predetermined thickness of, and engagable within, the C-shaped ring,

wherein the thickness of the ring varies from a proximal end of the spacer to the distal end of the spacer to form a tapered spacer.

35. (New) A two-part intervertebral spacer comprising:

a generally C-shaped ring defining a bore and having a predetermined thickness between an upper and a lower vertebral engaging surface, the ring being of substantially closed structure comprising bone; and,

a threaded dowel having a diameter greater than the predetermined thickness of, and engagable within, the C-shaped ring,

wherein at least a portion of an inner surface of the C-shaped ring is threaded.

36. (New) A two-part intervertebral spacer comprising:

a generally C-shaped ring defining a bore and having a predetermined thickness between an upper and a lower vertebral engaging surface, the ring being of substantially closed structure comprising bone; and,

a threaded dowel having a diameter greater than the predetermined thickness of,

and engagable within, the C-shaped ring,

wherein the inner surface of the C-shaped ring is threaded after insertion of the spacer and simultaneously with formation of threads in adjacent vertebral endplates.

37. (New) A two-part intervertebral spacer comprising:

a generally C-shaped ring defining a bore and having a predetermined thickness between an upper and a lower vertebral engaging surface, the ring being of substantially closed structure comprising bone; and,

a threaded dowel having a diameter greater than the predetermined thickness of, and engagable within, the C-shaped ring,

wherein the surfaces of the spacer possess both concave and convex curvatures designed to conform to adjacent vertebrae in order to maximize surface contact between the spacer and the adjacent vertebrae.

REMARKS

Claims 1-37 are pending in the application. By this Amendment applicants have amended the specification to reflect the issuance of a U.S. Patent for an application previously referenced in the specification, and applicants have also corrected a typographical error. Applicants have also amended Claims 1, 5, 6, 12, 13 and 18 and added new Claims 22-37.

In the Office Action mailed October 4, 2002, the Examiner rejected Claim 6 under 35 U.S.C. § 112, second paragraph, as being indefinite because the limitation "the